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A New Binuclear La Schiff Base Complex: Therapeutic Activity on Breast Cancer Combined with Focused Ultrasound

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***SUMMARY*. In this present study, a new dinuclear La(III) coordination complex, namely [La(dbm)$_2$HL(CH$_3$OH)]$_2$·2CH$_3$OH (dbm = 1,3-diphenylpropane-1,3-dione, HL = N'-[(1E)-[5-(hydroxymethyl)furan-2-yl]methylidene]pyrazine-2-carbohydrazide) has been successfully prepared via a solvothermal method which was further characterized by elemental analysis, IR and single crystal X-ray diffraction. Its clinical treatment value against breast cancer was evaluated and the related mechanism was explored at the same time. Firstly, the inhibitory activity of the new compound on the viability of the breast cancer was measured with CCK-8 assay. Besides, the migration and invasion of the cancer cells was also assessed by the trans-well assay after the compound treatment.**

RESUMEN. En este estudio, un nuevo complejo de coordinación dinuclear La (III), a saber [La(dbm)$_2$HL (CH$_3$OH)]$_2$ 2CH$_3$OH (dbm = 1,3-difenilpropano-1,3-diona, HL = N'-[(1E)-[5-(hidroximetil) furan-2-il] metiliden] pirazina-2-carbohidrazida) se preparó con éxito mediante un método solvotermal y se caracterizó además por análisis elemental, IR y difracción de rayos X monocristalino. Se evaluó su valor de tratamiento clínico contra el cáncer de mama y al mismo tiempo se exploró el mecanismo relacionado. En primer lugar, se midió la actividad inhibidora del nuevo compuesto sobre la viabilidad del cáncer de mama con el ensayo CCK-8. Además, la migración e invasión de las células cancerosas también se evaluó mediante el ensayo de pocillos trans después del tratamiento con el compuesto.

KEY WORDS: breast cancer, coordination complex, focused ultrasound

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